

Claims

- 5 1. An imaging screen having an array of light sensitive pixel devices arranged in a first lattice pattern; and an optical layer having an array of light guides, each light guide having a input end and an output end, the input ends being arranged in a second lattice pattern, and the output ends being arranged in the first lattice pattern and directed towards the pixel devices  
10 whereby the light guides guide light from their input ends to their output ends and onto the pixel devices.
2. An imaging screen according to claim 1 wherein the light guides have light reflecting walls which each guide light towards a respective pixel device.
- 15 3. An imaging screen according to claim 1 or 2 wherein the first or second lattice pattern is a hexagonal lattice pattern.
4. An imaging screen according to claim 3 wherein one of the lattice patterns  
20 is a hexagonal lattice pattern and the other lattice pattern is a rectangular lattice pattern.
5. An imaging screen according to any of claims 1 to 4 wherein the first end of each light guide has a first shape, and the second end of each light  
25 guide has a second shape.
6. An imaging screen according to claim 5 wherein the first or second shape is substantially hexagonal.
- 30 7. An imaging screen according to claim 6 wherein one of the shapes is substantially hexagonal and the other shape is substantially rectangular.
8. An imaging screen according to any of claims 1 to 7 wherein the optical  
35 layer physically engages the pixel devices.

9. An imaging device having a screen according to any of claims 1 to 8; and an output interface for receiving image data from the light sensitive pixel devices.
- 5 10. An imaging device according to claim 9 having a resampler programmed to: receive the image data from the output interface, resample the image data into a format compatible with a different lattice pattern, and output the resampled image data.
- 10 11. An imaging device according to claim 10; wherein the device is hand-held and portable.
12. A display device including:
- 15 (a) a display screen including an array of pixel devices arranged in a first lattice pattern; and an optical layer having an array of light guides, each light guide having a input end and an output end, the output ends being arranged in a second lattice pattern, and the input ends being arranged in the first lattice pattern and directed towards the pixel devices whereby the light guides guide light from the pixel devices from their input ends to their output ends;
- 20 (b) a screen drive for driving the pixel devices in accordance with a set of image data; and
- 25 (c) a resampler programmed to receive image data in a format compatible with the first lattice pattern, resample the image data into a format compatible with the second lattice pattern and output the resampled image data to the screen drive.